CLAIMS

What is claimed:

1 A method of treating or preventing Th1 and/or Th2 mediated diseases in a subject, comprising administering an effective amount of chemokine receptor 5 (CCR5) antagonist to said subject, thereby treating said Th1 or Th2 mediated diseases in said subject, wherein said Th1 or Th2 mediated diseases manifest an elevated level of IFN-γ and/or IL-13.

2 The method of claim 1, wherein said Th1 mediated diseases is selected from the group consisting of chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, and transplant rejection.

3. The method of claim 2, wherein said Th1 mediated diseases is COPD.

4. The method of claim 1, wherein said subject is a smoker with COPD.

5. The method of claim 4, wherein said CCR5 antagonist is selected from the group consisting of a chemical compound, an antibody, a ribozyme, a nucleic acid, and an antisense nucleic acid molecule.

6. The method of claim 5, wherein said antibody specifically binds to CCR5.

7. The method of claim 5, wherein said antibody binds to a mammalian CCR5, wherein said antibody has the epitopic specificity of a monoclonal antibody.

8. The method of claim 6, wherein the mammalian CCR5 is a human CCR5.

9. The method of claim 5, wherein said antibody inhibits binding of one or more chemokines selected from the group consisting of MIP-1α, MIP-1β, and RANTES to the receptor.

10. The method of claim 5, wherein said antibody inhibits one or more functions associated with binding of said one or more chemokines to the receptor.

11. The method of claim 5, wherein the antibody is a monoclonal antibody.

12. The method of claim 5, wherein the antibody is a chimeric antibody.

13. The method of claim 5, wherein the antibody or antigen binding fragment is a human antibody.

14. The method of 5, wherein the antibody is a humanized antibody.

15. The method of claim 5, wherein said antisense nucleic acid molecule is an isolated nucleic acid complementary to an isolated nucleic acid encoding said CCR5, or a fragment thereof.

16. The method of claim 5, wherein said ribozyme is an isolated enzymatic nucleic acid, which specifically cleaves mRNA transcribed from a nucleic acid encoding said CCR5, or a fragment thereof.

17. The method of claim 3, wherein said COPD is selected from the group consisting of chronic bronchitis and emphysema.

18. A method of inhibiting apoptosis in a subject, comprising administering an effective amount of CCR5 antagonist to said subject.